

The National Nursing Model from the Nursing Practice Perspective – Results from a Finnish Evaluation Study

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Abstract

The objective of this study was to evaluate the feasibility of the national nursing model in Finland. The feasibility evaluation was carried out with nurses using interviews and patient case scenarios in primary, specialized and private healthcare. The nursing process model showed to be feasible in nursing practice but the current national nursing classification (FinCC) was considered to be too detailed, multi-layered and difficult to understand and use. Overall, electronic nursing documentation improves the legal protection of patients and health professionals and makes nursing care transparent, but the nursing documentation systems do not support multi-professional care or information exchange. This study resulted in that the nursing model should conform better to nursing practices and support better nurses in their care interventions. An essential improvement for nursing practice would be specific templates that are easy to apply in specific situations with homogenous patient groups.

Keywords. Nursing practice, nursing documentation, nursing classification, nursing documentation system

Introduction

Nursing practice is the actual provision of nursing care¹. In providing and documenting care, nurses usually implement a nursing care plan based on the nursing process², using both nursing theory and best practices derived from nursing research¹. The most commonly used nursing process model is presented by the World Health Organization (WHO)³. It is vitally important in nursing documentation that there is clarity and logic and that the essential aspects of care are presented⁴.

In Finland, nursing documents are produced, stored and presented using a nursing documentation system (NDS), which is part of an electronic health record (EHR) system⁵. The NDS is planned to support multi-professional patient care^{4,5}. Before introduction of the NDS, nursing care was documented as a narrative, free text and without strict format or classifications and coding systems, which are essential parts of structured documentation⁶. Based on the specific needs of nursing, a national nursing model has been developed in Finland⁵. Structured documentation in nursing model is based on the nursing process, nationally defined nursing core data set (NMDS) and the Finnish Care Classification (FinCC) (Figure 1). A nursing document used in Finland follows the four phases of the nursing process and covers planning of the patient's care, execution of the care, monitoring of the care and evaluation of the care quality and outcomes^{5,7,8}. NMDS follows the nursing process phases and includes information on nursing diagnosis/needs, nursing interventions, nursing outcomes, nursing discharge summary and patient care intensity^{5,8}.

Nursing process model phases:	Data collection and nursing needs assessment	Determining nursing diagnoses and nursing care aims	Planning and delivering of nursing interventions	Evaluation of outcomes	Nursing discharge summary	
Classifications applied:	-	FiCND, expected outcome	FiCNI	FiCND care component, outcome*	Summary of nursing process data	
Nursing minimum data set (NMDS):	Core data set**	Nursing diagnoses	Nursing interventions	Outcomes of care	Nursing discharge summary	Patient care intensity***

*outcome = improved, stabilized or deteriorated

** Core data set include patient identification data, risk factors, reason for care, medication, medical diagnoses, laboratory tests, radiology examination, surgical procedures, functional status and technical aids

***patient care intensity = Oulu Patient Classification and OPCq (Rafaela) used

Figure 1. Summary of the Finnish national nursing model⁸.

FinCC is a nursing classification designed to encode the discrete elements of nursing practice⁵. It is based on the Clinical Care Classification (CCC)⁹ and includes the Finnish Classification of Nursing Diagnoses (FiCND), the

Finnish Classification of Nursing Interventions (FiCNI), and the Finnish Classification of Nursing Outcomes (FiCNO). FiCND and FiCNI include care components, categories and subcategories⁵. The starting-point of the nursing model is to specify the patient's individual care needs, and based on these the nursing care aims are set and the care plan is prepared. NDS is a combination of the nursing care plan forms and daily treatment sheets^{5, 8}. In Finland, the nursing model has been accepted as a national nursing model. It has been implemented during the last decade in EHR systems that are widely used in healthcare practice. The purpose has been to implement nursing model in all NDSs that are used in nursing practices to achieve one, national nursing documentation practice⁵.

Previous research exists that evaluates the use of the nursing model^{8,10} and the research findings refer to a need to monitor and evaluate the use of the nursing model and to evaluate the effects of structured documentation on nursing care. There is a lot of international research on the effects of NDSs on nursing care, e.g. studies focusing on the quality of nursing care, user satisfaction, and patient outcome (e.g.^{7,11}). Generally these studies have shown varying results depending on the nursing classification and NDS used. A study by Ammenwerth et al.¹² showed that the acceptance of the nursing documentation requires that the nursing documentation model conforms to the nursing practices and the nursing classifications comply with the practical nursing process. Several studies resulted in increased quality of care planning but an increased amount of documentation and corresponding workload^{13,14}. This paper reports results from a national evaluation study^{15,16} with the focus on the feasibility of the nursing model and especially on its compliance with nursing practice. The final goal of this evaluation study was to support the further development of the nursing model and to promote its wider dissemination and utilization in nursing practice. The objectives of the feasibility evaluation part of the national study¹⁵ were: 1. To evaluate how clear, understandable, logical and unambiguous the nursing process model and the FinCC classification are, 2. To study how well they reflect the nursing practice: patient care and nursing processes?

Materials and methods

The feasibility evaluation of the nursing model was carried out in spring 2010 in the nurses' clinical context in primary, specialized and private healthcare. The participating organizations were those which had been using the nursing model (the latest version) and a NDS for at least six months prior to the study. Additionally these organizations had four different EHR systems in use. The participating headnurses, nurses and practical nurses, 20 women in total, with different age and work history, were selected by the healthcare organizations (n = 6). The materials were collected using interviews and patient case scenarios. First nurses were interviewed in a thematic interview with detailed questions structured under the following themes: Nurses' perception of the nursing model and its parts, (simplicity and understandability of the nursing model), the naturalness and ambiguity of the nursing model, and use of the nursing model. In addition we used patient scenario walkthroughs. Three scenarios in total were developed, two for specialized care (outpatients, ward) and one for primary care (health center) environments. These scenarios presented typical patient cases to be documented using the nursing model. These scenarios were walked through with the nurses in a think-aloud fashion in order to find out how these cases could be documented using the nursing model. Table 1 presents part of an example scenario. The background information of the participating nurses is presented in Table 2. The collected data was analyzed using content analysis.

Table 1. Part of an example scenario from specialized care (outpatients).

A 40-year-old woman with diabetes mellitus type 2 is in outpatients	
PATIENT	NURSE
- complains of acute weakness and vertigo	- takes blood sugar at 12:00 "low" (<3.9 mmol/l) - gives the patient 3 Siripiri glucose pills at 12:00
After quarter of an hour patient seems to be much more alert in the nurse's opinion	
	- controlled blood sugar, which is 5.5 mmol/l at 12:15

Table 2. Background information of the nurses involved (n = 20) in the feasibility study.

Type of scenario used:	Number of nurses	Nurses' background: healthcare organization:	Nurses' background: working unit:	Speciality of nurses' working unit:
Specialized healthcare, ward	8	Public sector, 5 in special healthcare, 3 in private healthcare	7 ward / 1 contact person	<i>Surgical:</i> Prenatal, orthopedics <i>Internal medicine:</i> Lung diseases and neurology
Specialized healthcare, outpatients	5	Public sector, 5 in special healthcare	5 outpatients	<i>Internal medicine:</i> Dermatology, lung diseases
Primary care	7	Public sector, 7 in primary healthcare	4 ward, 3 home care services	Community health center, long-term care, home care services

Results

Nurses' perception of the nursing model and its parts: The nursing process model was accepted and considered feasible in nursing practice. Nursing care is quite easily structured following the phases of the process model. However, various healthcare contexts have specific needs for documentation and the care interventions may be focused on the various nursing process phases, e.g. specialized care outpatients and wards are focused differently on the process phases than a primary care unit or a private healthcare ward. The nursing process model and preparation of a care plan were considered natural and feasible especially for the wards. One nurse on the ward of the health center documented patient's care plan with nursing model as follows:

Nursing Diagnosis: Respiratory and Cardiac

Nursing: Follow-up quality and rate of breathing, Follow-up saturation of oxygen, Follow-up cough, Oxygen Therapy Care, Breathing soothing patient positioning, Follow-up blood pressure, Follow-up pulse, Upkeeping circulation of blood

At the outpatient clinics, documenting all the phases of nursing process, e.g. planning, was not considered relevant, because the nurses attached primary importance to documenting nursing interventions there (see table 3). All in all the evaluation phase was considered as the most important or essential phase of the nursing process.

The current nursing classification (FinCC) with its care components, categories, and subcategories was considered to be very wide in scope, very detailed and difficult to understand and use. A major change brought about by the classification was considered to be the splitting of patient care and the nurses' own work into small pieces of information. Figure 2 depicts a reconstructed version of a NDS interface. The figure was drawn after the empirical study to illustrate the basic components of NDS and the structure of a nursing model.

Figure 2. An example of a user interface of a typical nursing documentation system.

Table 3 illustrates how one nurse in specialized care documented part of an example scenario described in Table 1. The nurses felt comfortable when identifying the care component at the highest level but the categories and subcategories were more difficult to select, due to the level of detail, the inconsistency of terms, conflicting terms, and ambiguity.

Table 3. Part of an example scenario documented by a nurse at the outpatient clinic.*

<p>Nursing Diagnosis/ACTIVITY/Activity alteration/Activity deterioration Patient has acute weakness and vertigo. Care Planning Goal/Activity Recovering state of health Care Planning Nursing Interventions/METABOLIC/Metabolism observation and care/Blood sugar observation and care Blood sugar LOW (<3.9 mmol/l) at 12:00 Care Implementation Nursing Interventions/MEDICATION/Medication Treatment/Medication by mouth SIRIPIRI ORANGE -, a pill by mouth; Given 1 pill PO 21.04.2010 09:58, Hanna Selviyttyjä, dermatology outpatient clinic Nursing Interventions/MEDICATION/Medication effect observation After SIRIPIRI patient's state of health is much better. Care Implementation Nursing Interventions/METABOLIC/Metabolism observation and care/Blood sugar observation and care Blood sugar: 5.5 mmol/l Care Implementation</p>
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*translations from Finnish to English made by the first author

The nursing model's compliance with the nursing practice: Nurses observed that some of the categories of FinCC are not in a logical order and they are not all typical or characteristic of Finnish nursing practice. To avoid the problems and difficulties in using the FinCC, the nurses nowadays write a lot of free narrative text. Free text is an old way of documenting and is easy to produce and easy to read. Currently, the nursing model is the same for all healthcare contexts though the various healthcare situations and organizational environments have specific needs for documentation. This study results in that the nursing model should comply better with the nursing practices, support nurses in their care interventions, and take into consideration the diversity of needs arising from various nursing contexts. National documentation practices have not yet really been developed; some organizations have developed their own procedures and rules on how to apply the model. However, the nursing model has clearly made nursing care more transparent and the content of care planning and documentation have improved. In particular, documentation has shown its value in the legal issues.

Discussion

Our study results indicate that the nursing process model is feasible in nursing practice but the current nursing classification (FinCC) is considered by the nurses to be too detailed, too multi-layered, and difficult to understand and use. A holistic picture of the patient's situation is difficult to achieve, which may weaken the quality of patient care. Though nursing conform process the nursing model is applied differently in various healthcare organizations and situations, and therefore no common, agreed national nursing documentation practice has yet been developed. However, the nurses prefer electronic documentation to paper-based documents. The main reason for this is the accessibility of information (compared to papers electronic documentation is easily accessible) and the reuse and sharing of documentation (e.g. when a care plan is accurately written, it can be utilized afterwards in care process and documentation). However the nursing model used should comply better with nursing practices and support nurses in their care interventions. Electronic documentation improves legal protection of the patients and health professionals and makes nursing care transparent. Our study concluded that the nursing classification should be improved to make it more practical, less detailed, easier to apply, and all inconsistencies, conflicts, and ambiguities should be eliminated.

Our results confirm and are in compliance with the earlier research results^{10,11}. This study also showed both positive and negative results concerning the nursing model. In some healthcare organizations and situations, the nursing model is more practical and suitable for the work processes e.g. at home care services; whereas, in some situations, e.g. at outpatient clinics, it is too heavy to follow. The level of detail in the nursing model is very high and therefore the use of the model is complicated. Nurses need to consider carefully where to document each care intervention and how to document it. As a result, information is fragmented into such small pieces that it is difficult to build a holistic view of the patient's status and situation. The starting-point of nursing should be the patient's situation⁵. A rigid model is not feasible for every patient situation. Too detailed, fragmented patient information will make documentation compulsory and can make the nurse's work non-productive.

Like our study results, Ammenwerth et al.¹¹ also found that the NDS did not improve communication with the physicians or information handover to other nurses. A recent Finnish study on the nursing model by Häyrynen et al.⁸ concluded that the use of the nursing process varies across patients and the use of care components varied between the care specialties. Documentation in the EHR system should be easy and support the nurses' workflows before highly granular structures can be used in nursing narratives. Agreement on a coherent documentation practice is important, then the nursing documentation based on national guidelines can be followed⁸.

Conclusion

The nursing model does not comply well with nursing practices. IT development (e.g. data co-operation, statistics) requires uniformity and structured data content. This is important, but adapting a new documentation approach to nursing practices is challenging^{11,13,14}. Nursing is all-inclusive and patient's needs are diverse. The FinCC classification tries to cover all different areas of nursing, but at the same time the content of nursing care is fragmented when documentation is done by classification. This leads one to ask if nursing in general can be classified? Nursing practice should guide the developing nursing classifications. The nursing model should be process-oriented, comply better with the nursing practices and support nurses in their care interventions. It should be flexible so that all the phases of the nursing model need not always be documented. The generic nursing model can be made more specific for healthcare contexts by developing templates and standard plans for specific situations and homogenous patient groups. These templates would be adaptive so that the patient's individual needs can be taken into account and his or her care continues to be flexible inside one organization and between different organizations following the common care practices. Aspects of collaborative care and better utilization of documented information

require that the nursing model is designed also from the information use perspective, not only from the documentation perspective. A good classification is clear, understandable, logical, and unambiguous and it reflects nursing practice: nursing care and nursing processes. To support development of standardized nursing practices one generally accepted model should be applied. The feasibility problems, both in the nursing model and in the NDSs, are now resulting in negative impacts on the development of nursing practice. The nursing model should be made more practical, easier to apply and more compatible with nursing care practices. There should be improved compliance between the models and the practice, otherwise the practices will be organization-specific, and there will be major variations between organizations.

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